

REMARKS

This Amendment is responsive to the Office Action identified above, and is further responsive in any other manner indicated below.

PENDING CLAIMS

Claims 7-20 were pending in the application, under consideration and subject to examination at the time of the final Office Action. Unrelated to any prior art, scope or rejection, appropriate claims have been amended, added or deleted (without prejudice or disclaimer of any scope or subject matter) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, the amendments to the claims are unrelated to any prior art or scope adjustment, and are simply clarified claims in which Applicant is presently interested. At entry of this paper, Claims 7-20 remain pending in the application for consideration and examination.

ALL REJECTIONS UNDER 35 USC §§102 AND 103 - TRAVERSED

All 35 USC rejections are respectfully traversed. Such rejections have been rendered obsolete by the present clarifying amendments to Applicant's claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude renewal of any such rejections against Applicant's clarified claims.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated herein by reference. Further, all Office Action statements regarding the prior art rejections are

respectfully traversed. As additional arguments, Applicant respectfully submits the following.

At the outset, as to the requirements to support a rejection under 35 USC §102, reference is made to the decision of *In re Robertson*, 49 USPQ2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 USC §102 required that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. Also as noted by the Court, inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

With regard to §103, reference also is made to the decision *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988), wherein the Court pointed out that the PTO has the burden under §103 to establish a *prima facie* case of obviousness. Whether a particular combination might be “obvious to try” is not a legitimate test of patentability, and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination, or by hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Therefore, in order to properly support a §102 anticipation-type rejection, the reference must teach the specific limitations of the claimed invention. In order to properly support a §103 obviousness-type rejection, the reference not only must suggest the claimed features, but also must contain the motivation for modifying the art to arrive at an approximation of the claimed features. However, the cited art does not adequately support either a §102 anticipation-type rejection or a §103

obviousness-type rejection because it does not, at minimum, disclose (or suggest) the following discussed limitations of Applicant's claimed invention.

Applicant's disclosed and claimed invention is directed toward storage operating control system arrangements which include **two alternate paths** into an external storage device such that the arrangement can take advantage of both "In-Band" (FIG. 2) and "Out-Of-Band" (FIG. 3) methods. Within the external storage device 108 (example embodiment FIG. 1), there are storage data 105 and storage operating data 107 (or configuration information; independent Claim 14), as well as a service processor 106 for operating said storage operating data.

As a first ("in-band") path, a host computer 101 is **afforded fast access to storage data** 105 by using a **first (e.g., fibre channel) connection** 103 to **directly access** the storage data from the external storage device 108. Independent claim 7, for example, recites "**wherein said host computer commands reads/writes of said storage data from/to said external storage device through said first connection.**"

The first ("in-band") connection is advantageous, in that commanding of reads/writes through the fibre channel **allows the speed of the direct fibre channel connection to be used to request and conduct almost instantaneous reads/writes**. Secondly, it is advantageous in that it allows the host computer the **ability to continue requesting/conducting reads/writes through the first connection even when the third connection (described ahead) is interrupted by switch interruption (described ahead)**.

As a second ("out-of-band") path, the host computer 101 is **afforded access to storage operating data** 107 (or configuration information) using combination of a

second (e.g., Java (RMI)/TCP/IP) connection 104, a storage operating server 113 and a third (e.g., Java (RMI)/TCP/IP) connection (associated with FIG. 1 switch 116). Independent claim 7, for example, recites “wherein **said host computer** executes an application program associated with said storage operating data server program so as **to read/write said storage operating data from/to said external storage device through said storage management server and said third connection.**”

The combination of second/third connection and storage operating server is **advantageous in at least two regards.** **First**, it allows a host application 102 to manipulate the storage operating data 107, even in the event that the host computer 101 is subsequently shut off. That is, delayed commands (see blocks 401, 402; FIG. 4) can be forwarded to and subsequently executed by the storage operating server. Thus, **the host computer 101 is not required to remain on** during the storage operating data manipulation, thus resulting in convenience and time/power savings. As a **second advantage**, by utilizing the storage operating server 113 as an intermediary, **the storage operating server is the component which can be customized/specialized with programs appropriate to effect manipulation of the storage operating data.** Thus, the host computer 101 is relieved of containing the customized/specialized programs, and thus **can be produced at lower cost.**

In terms of distinguishing claim features/limitations, independent Claim 7, for example, states (in part): a host computer coupled with said external storage device via **a first connection**; and **a storage management server** coupled with said host computer via **a second connection** and said service processor via **a third connection**, wherein said storage management server executes a storage operating

data server program, and wherein said host computer executes an application program associated with said storage operating data server program so as to read/write said storage operating data from/to said external storage device through said storage management server and said third connection, and wherein said host computer commands reads/writes of said storage data from/to said external storage device through said first connection. Claims 8-13 contain such features/limitations by dependency, and Claims 14-20 contain similar or analogous features/limitations.

Accordingly, it can be seen that Applicant's disclosed and claimed invention contains two separate control paths, albeit each path being for a differing purpose. That is, Applicant's first ("in-band") path is for commanding reads/writes to the external storage device, and Applicant's second ("out-of-band") path is to read/write the storage operating data from/to the external storage device

Turning now to rebuttal of the applied art, Jesionowski's FIG. 1 appears to disclose an arrangement having two major paths to its data storage library 10, i.e., paths 66-68 (together with switch 50 and connection 59) and paths 46-48. Jesionowski may, at first glance, appear to be somewhat similar to Applicant's disclosed and claimed invention. However, Jesionowski fails as a primary reference, in that, at minimum, Jesionowski fails to disclose or suggest an arrangement, "wherein said host computer commands reads/writes of said storage data from/to said external storage device through said first connection." More particularly, a thorough reading and understanding of Jesionowski reveals that only Jesionowski's paths 66-68 (together with switch 50 and connection 59) represent a control signal branch or path, and paths 46-48 are "data paths" which

carry **only data**. Jesionowski's column 4, lines 19-22, specifically states, "...buses 176-178 are provided and are combined control and data paths serving as both **control** paths 66-68 and **data** paths 46-48." As a relevant example, a read/write command would be delivered along **control** paths 66-68, while read/write data would be delivered along **data** paths 46-48. Thus, it can be seen that Jesionowski is not at all directed to, or concerned with, providing two types of separate control paths for two differing reasons.

In fact, as further evidence, it is respectfully noted that Jesionowski's column 4, lines 27-33, state that, in one embodiment, it is desired to have the cabling on a **common bus** (e.g., bus 46, 66, 176). Clearly, such embodiment is not at all concerned with separate control paths.

In addition to the above distinguishing features/limitations, Applicant's claims 9 and 16 recite "**a switch for selectively shutting off said third connection** between said service processor and said storage management server." It is respectfully submitted that there would have been no suggestion or incentive to modify Jesionowski's arrangement to arrive at Applicant's switch embodiment. More particularly, as mentioned previously, all of Jesionowski's control signals are delivered along **Jesionowski's paths 66-68 together with switch 50 and connection 59**. If a switch was provided, and interrupted, within Jesionowski's connection 59 (as a "third connection"), then Jesionowski's data storage library 10 would cease to operate since control signals (e.g., commands) thereto would be stopped. Accordingly, there would be no, and even negative, incentive to modify Jesionowski with a switch. It is well settled under U.S. patent law, that if the

operation of a reference would be destroyed by a proposed modification, then there would have been no incentive or motivation for such modification.

The other cited references do not cure the major deficiencies mentioned above with respect to the primary Jesionowski reference, and accordingly, no combination of the applied references would have disclosed or suggested Applicant's invention.

As a result of all of the foregoing, it is respectfully submitted that the applied art would not support a §102 anticipatory-type rejection or §103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such §§102 and 103 rejections, and express written allowance of all of the rejected claims, are respectfully requested.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer of any scope or subject matter. Further, Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, *i.e.*, Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

EXAMINER INVITED TO TELEPHONE

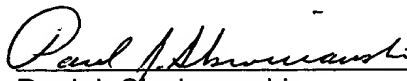
The Examiner is invited to telephone the undersigned at the local D.C. area number 703-312-6600, to discuss an Examiner's Amendment or other suggested action for accelerating prosecution and moving the present application to allowance.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are in condition for allowance. Accordingly, early allowance of such claims is respectfully requested.

To whatever other extent is actually necessary and appropriate, Applicant respectfully petitions the Commissioner for an extension of time under 37 CFR §1.136. No additional claims fees are required for entry of this paper. Please charge any actual fee deficiency for entry of this paper to ATS&K Deposit Account No. 01-2135 (as Case No. 520.40043X00).

Respectfully submitted,



Paul J. Skwierawski
Registration No. 32,173
ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 North Seventeenth Street, Suite 1800
Arlington, Virginia 22209-3801, USA
Telephone 703-312-6600
Facsimile 703-312-6666